

Title (en)

ARRANGEMENT FOR TRANSFERRING TORSION TORQUE, PARTICULARLY IN THE FORM OF A TORSION SPRING OR DRIVE SHAFT, MADE OF COMPOSITE FIBER MATERIALS IN ORDER TO ACHIEVE A HIGH SPECIFIC MATERIAL USAGE

Title (de)

ANORDNUNG ZUR ÜBERTRAGUNG VON TORSIONSMOMENTEN, INSBESONDERE ALS TORSIONSFEDER ODER ANTRIEBSWELLE, AUS FASERVERBUNDWERKSTOFFEN ZUR ERZIELUNG EINER HOHEN SPEZIFISCHEN MATERIALAUSNUTZUNG

Title (fr)

DISPOSITIF POUR LA TRANSMISSION DE MOMENTS DE TORSION, EN PARTICULIER COMME RESSORT DE TORSION OU ARBRE D'ENTRAÎNEMENT, EN MATÉRIAUX COMPOSITES FIBREUX POUR OBTENIR UNE HAUTE UTILISATION DE MATÉRIAUX SPECIFIQUES

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Abstract (en)

[origin: WO2019243354A1] The invention relates to a torsion carrier, particularly a torsion spring, helical spring, drive shaft or balance shaft, which enables significant material and installation space savings compared to the prior art. The torsion carrier consists of a plurality of, but at least two supporting layers lying radially one above the other, each of which consists of at least one spiral coil (1, 3), but preferably of a plurality of spiral coils made of predominantly unidirectional composite fiber material, wherein at least two of the supporting layers have a counterrotating spiral coil orientation relative to one other. An elastic intermediate spacer layer (2) is arranged between adjacent spiral coil layers, by means of which a decoupling of the spiral coil expansions of adjacent spiral coil layers is achieved. This achieves particularly favorable, predominantly single-axis states of stress which allow for a high level of material utilization.

IPC 8 full level

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